

UNIVERSITY OF LEOBEN, AUSTRIA

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DEAN: Zoltán E. Heinemann, Dean of Petroleum Engineering

CHAIR: Zoltán E. Heinemann, Chair of Petroleum Engineering

CONTACT INFORMATION

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DEGREE INFORMATION

DEGREES OFFERED IN PETROLEUM ENGINEERING

Degree	Petroleum Hours	Total Hours	Curriculum Description
Bachelor	48	163	www.unileoben.ac.at
Masters (thesis)	26 - 29	47	www.unileoben.ac.at
Doctorate (excluding thesis work)	3 – 6	12	www.unileoben.ac.at

ACCREDITATION

Student exchange with the petroleum engineering program of Colorado School of Mines, Golden, CO and other acknowledged international universities

CURRICULUM DESCRIPTION

Undergraduate: The subject petroleum engineering encompasses the discovery as well as the exploitation of petroleum reservoirs, and assumes technical universality as a given. In order to prepare the students for working in multidisciplinary teams, the knowledge gained in the basic subjects like mathematics, natural sciences, basic engineering sciences, geosciences and economics interlock with a well grounded training in drilling, petroleum production and reservoir engineering. All the petroleum engineering courses are given and examined in English language. Practical work experience during the holidays has a very high position. The scholastic training is to be rounded off by the student's fulfilling 80 work days in petroleum industry and/or in service companies by the end of his/her studies.

Masters: The program's name is "International Study Program in Petroleum Engineering" and all courses are given in English language. The students are encouraged to complete one semester at a partner university abroad with a minimum of 12 Credits. According to the major of his/her choice, the amount of 14 semester hours are exclusively focused on either drilling, production or reservoir engineering – reservoir characterization. The scholastic training is to be rounded off by the student's fulfilling 20 work days in petroleum industry. The subject of the thesis (in general 1 semester thesis work) is of a scientific nature and selected from the main field of interest.

Doctorate: The doctoral program requires a minimum of 12 semester hours beyond the Master's degree (excluding the dissertation work). In case of a fulltime doctoral student, at least two years of time involved are needed for the dissertation work.

PROGRAM ADMISSION REQUIREMENTS

Undergraduate: Graduation from an Austrian gymnasium or a comparable high school abroad. In case of international students: proof of proficiency in German language (can be gained at the U. of Leoben by completing a 1-year preparatory course) if they still have not completed the basic subjects at an acknowledged university in their home country.

Masters: Baccalaureate degree from the U. of Leoben in petroleum engineering or natural resources, B.Sc. degree from a partner university abroad. If the applicant has been graduated from another university in Austria and abroad, he/she has to complete several undergraduate courses in petroleum engineering before admission. These courses are fixed individually on the basis of his/her transcript from the previous study.

Doctorate: For graduate admission in petroleum engineering, an applicant must hold a Master's degree from a university of recognized standing and must be able to demonstrate excellent skills in petroleum engineering. The application to the University must include an official transcript from all previous university study.

FACULTY INFORMATION

Name	Degree	Position	Major Field of Interest	E-mail	Phone
Zoltán E. Heinemann	Dr.-Ing., Dipl.-Ing., Dr.h.c.	Professor	Reservoir Engineering, Reservoir Simulation	zheinemann@unileoben.ac.at	+43.3842.402.407
Gerhard Ruthammer	Dr.mont., Dipl.-Ing.	Professor	Production	gerhard.ruthammer@unileoben.ac.at	+43.3842.402.350
Gerhard Thonhauser	Dr.mont., Dipl.-Ing.	Professor	Drilling, Well Data Management	gerhard.thonhauser@unileoben.ac.at	+43.3842.402.352
Wilhelm Brandstaetter	Dr.techn., Dipl.-Ing.	Associate Professor	Heat and Mass Transfer, Simulation	brandstw@unileoben.ac.at	+43.3842.402.9940
Brigitte Weinhardt	Dr.techn., Dipl.-Ing.	Associate Professor	Phase Behavior, EOR	Brigitte.Weinhardt@notes.unileoben.ac.at	+43.3842.402.409
Michael Prohaska	Dr.mont., Dipl.-Ing.	Assistant Professor	Drilling Fluids, Cementing	prohaska@unileoben.ac.at	+43.3842.402.353
Andreas Harrer	Dr.mont., Dipl.-Ing.	Lecturer	Reservoir Simulation	andreas.harrer@unileoben.ac.at	+43.4842.402.706
Markus Sauer	Dipl.-Ing.	Lecturer	Stimulation	markus.sauer@unileoben.ac.at	+43.3842.402.354

ENROLLMENT & DEGREES CONFERRED INFORMATION

Academic Year	Freshperson	Students in Total	Graduates Dipl.-Ing (comparable with M.S.)	Ph.D.
1884-85	64	not known	22	-
1985-86	47	not known	16	2
1986-87	37	not known	9	1
1987-88	30	not known	13	1
1988-89	37	not known	32	-
1989-90	46	163	18	1
1990-91	36	162	18	1
1991-92	34	157	19	3
1992-93	33	158	23	2
1993-94	19	150	24	4
1994-95	18	131	11	2
1995-96	20	135	13	3
1996-97	30	162	13	1
1997-98	43	183	14	2
1998-99	43	199	27	6
1999-00	68	217	24	1
2000-01	22	204	19	-
2001-02	30	180	29	1
2002-03	36	186	63	3

Cumulative Degrees Awarded (since 1984-85): 407
(5-year program only until 2003-04)

Cumulative Doctorate Degrees Awarded (since 1984-85): 34

UNDERGRADUATE CURRICULUM ANALYSIS

MATHEMATICS

Course Type	Hours Required
Mathematics I	8
Mathematics II	6.5
Statistics	3.5

PHYSICS

Course Type	Hours Required
Physics I	4
Physics II	2
Exercises in Physics	3

CHEMISTRY

Course Type	Hours Required
General Chemistry	6
Physical Chemistry	2
Lab in Physical Chemistry	2

HSS

Course Type	Hours Required
Mining Law	2
Health, Safety & Environment	2

GENERAL ENGINEERING

Course Type	Hours Required
Technical Mechanics	5
Strength of Materials	2
Machine Drawing & Machine Elements	8
Soil & Rock Mechanics	2
Fluid Dynamics	3

GEOSCIENCES

Course Type	Hours Required
Geology	5
Lab in Geology	4
Mineralogy & Petrology	2
Lab in Mineralogy & Petrology	2
Applied Geophysics	2

COMMUNICATION

Course Type	Hours Required
Report Writing & Presentation Skills	2

PETROLEUM ENGINEERING

Course Type	Hours Required
Flow in Porous Media & Well Testing	4
Geophysical Well Logging	3
Drilling Engineering	7
Production Engineering	7
Wellbore Fluid Dynamics	3
Reservoir Fluids & EOR	2
Reservoir Engineering	6
Petroleum Engineering Design & Design Tools	6
Petroleum Geology	3
Petroleum Economics	2
Main Excursion (10 days)	5

OTHER

Course Type	Hours Required
Computing & Programming	4
Use of Computers in Technical Disciplines	4
Basic Economics	8
Electives	16